

PCT

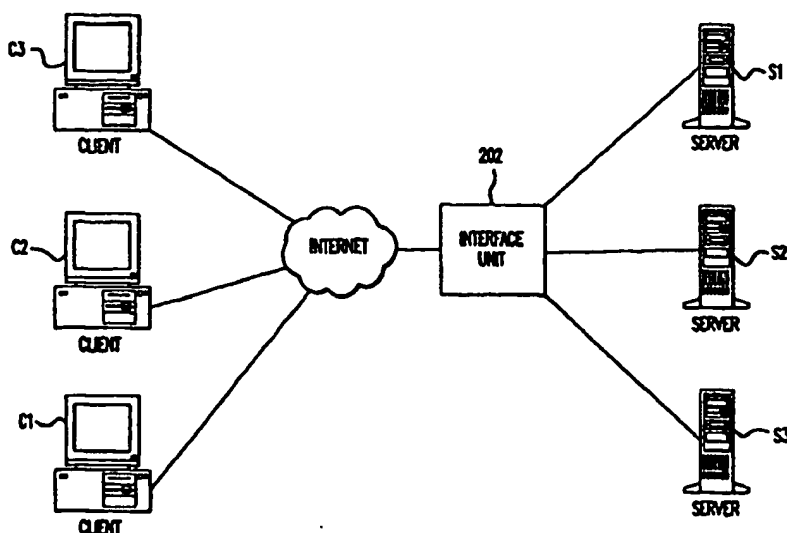
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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| (51) International Patent Classification ⁷ : G06F 13/00, 17/00 | | A3 | (11) International Publication Number: WO 00/28433 (43) International Publication Date: 18 May 2000 (18.05.00) |
| (21) International Application Number: PCT/US99/26442 (22) International Filing Date: 10 November 1999 (10.11.99) (30) Priority Data: 09/188,709 10 November 1998 (10.11.98) US (71) Applicant: NETSCALER, INC. [US/US]; Suite 515, 4800 Great America Parkway, Santa Clara, CA 95054 (US). (72) Inventors: SUSAI, Michel, K.; Apartment 11L, 444 Saratoga Avenue, Santa Clara, CA 95050 (US). SINHA, Rajiv, 4725 Clarendon Drive, San Jose, CA 95129 (US). SETIA, Deepinder, S.; 4289 Mountcastle Way, San Jose, CA 95136 (US). (74) Agents: SOKOHL, Robert, E. et al.; Sterne, Kessler, Goldstein & Fox P.L.L.C., Suite 600, 1100 New York Avenue, N.W., Washington, DC 20005-3934 (US). | | (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report. (88) Date of publication of the international search report: 31 August 2000 (31.08.00) | |

(54) Title: INTERNET CLIENT-SERVER MULTIPLEXER



(57) Abstract

An apparatus, method and computer program product for network client server multiplexing. The apparatus is implemented within an interface unit (202) connecting a plurality of servers (s1, s2, s3) to the Internet, which is connected to a plurality of clients (c1, c2, c3). According to a "connection pooling" aspect of the invention, the interface unit (202) opens and maintains connections with the servers (s1, s2, s3) and handles the opening and closing of connections with clients (c1, c2, c3) accessing the servers, thereby freeing the servers of the processing load incurred by opening and closing connections. According to a "connection distribution" aspect of the invention, the interface unit examines the path names within requests received from clients and selects the server hosting the requested information according to the

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/26442

| A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : G06F13/00, 17/00 US CL : 709/203, 217 According to International Patent Classification (IPC) or to both national classification and IPC | | |
|--|--|-----------------------|
| B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 709/203, 217 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) | | |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT | | |
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| Y | US 5,852,717 A (Bhide et al) 22 December 1998 col. 6, lines 46-68, fig. 6. | 1-11, 20-30 |
| Y, P | US 5,918,013 A (Mighdoll et al) 29 June 1999, col. 3, lines 15-68 - col. 15, lines 1-68 | 1-11, 20-30 |
| Y | Zheng Wang et al. (Prefectching in world wide web), Department of computer science, University College London, United Kingdom, November 18-22, 1996, pages 28-32. | 1-11, 20-30 |
| Y | Mogul, J.C. (The case for persistent connection HTTP), Computer communication Review Conference Title: Comput. Commun. Rev. (USA), August 1995, vol. 25, no. 4, pages 299-313. | |
| <input type="checkbox"/> Further documents are listed in the continuation of Box C: <input type="checkbox"/> See patent family annex. | | |
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| Date of the actual completion of the international search 17 MAY 2000 | Date of mailing of the international search report 30 MAY 2000 | |
| Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230 | Authorized Officer HIEU C. LE Telephone No. (703) 306-3101 | |

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US99/26442

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-11, 20-30

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.